



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

THE NON-EUCLIDEAN GEOMETRY: HISTORICAL AND EXPOSITORY.

By GEORGE BRUCE HALSTED, A. M. (Princeton); Ph. D. (Johns Hopkins); Member of the London Mathematical Society; and Professor of Mathematics in the University of Texas, Austin, Texas.

[Continued from May Number.]

SCHOLION.

Nevertheless it might be doubted, whether, from whatever point K (assumed indeed in BX before the meeting of this BX with the other AX) erected toward the parts of the straight AX , a perpendicular must meet this (fig. 29) in some point L ; provided of course those two, before the aforesaid meeting, are assumed ever more to approach each other mutually [and not to meet at any finite remove].

But I say it will follow completely thus.

Proof. Let there be assigned in BX any point whatever K . In AX is taken a certain AM equal to the sum of this BK and of twice AB .

Then from the point M is drawn to BX (according to Eu. I. 12) the perpendicular MN . According to the present supposition, MN will be less than AB . Wherefore AM (made equal to the sum of BK and of double AB) will be greater than the sum of BK , AB , and NM . Now it behooves to show this same AM to be less than the sum of BN , AB , and MN , that thence it may follow this BN is greater than the aforesaid BK , and therefore the point K lies between the points B and N .

Join BM . The side AM will be (from Eu. I. 20) less than the two remaining sides together AB and BM . Again the side BM (from the same Eu. I. 20) will be less than the two sides together BN and MN . Therefore the side AM will be by much less than the three sides together AB , BN , and NM . But this was to be shown, in order to deduce that the point K lies between the points B and N . Thence however it follows, that the perpendicular from the point K erected toward the parts of AX must meet this in some point L stationed between the points A and M ; else obviously (against Eu. I. 17) it must cut either AB or MN perpendiculars to BX .

Quod etc.

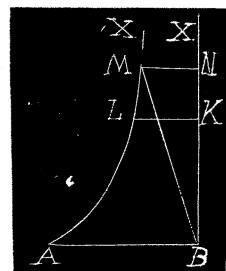


Fig. 29.

[To be Continued.]